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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,304	12/20/2001	Andreas Jagtoyen	03438.0082	8395

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 08/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

09/937,304

Applicant(s)

JAGTOYEN, ANDREAS

Examiner

Gail Verbitsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8 and 15 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art (WO 9709596) by applicant in pages 2-3 of the specification [hereinafter WO] in view of Martin et al. (U.S. 5438322) [hereinafter Martin].

WO discloses a device to determine temperature on a moving/ rotating part, the device comprising a temperature sensor formed as a SAW (surface acoustic wave) chip having transmitting functions (temperature dependent transfer function). WO teaches that a temperature corresponding acoustic signal is transmitted by radio (transmission line) to remote point (antenna) located outside of the sensors position. A polling signal in the form of radio signal with a specified property transmitted from a polling unit and received by the SAW chip, converted into an electrical signal, then in an acoustic signal which is transmitted along the surface of the device, reflected, converted back in the electrical signal and returned in the polling unit. The

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changes in the polling signal result in the SAW transmitting functions and correspond to a measured (temperature) property. It is inherent, that in order to operate in the environment, the device should be enclosed in a housing/ casing/ encapsulation.

WO does not explicitly state that the sensor is encapsulated in a particular encapsulation/ housing and that it is kept in a mounting hole in a moving part. WO does not disclose the particular material, as stated in claim 4.

Martin teaches to encapsulate a wireless temperature sensing element intended to be positioned in a housing/ bolt to be screwed in a mounting hole of a moving body/ part (bearing of a moving railroad car) in a bolt. The bolt is filled internally with a material (compression spring) and a diaphragm (flexible, stretchable heat resistance material) which keeps the element in a required position. As shown in Fig. 1, the element is arranged in a lower end of the mounting hole.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the housing, disclosed by WO, so as to encapsulate it in a bolt, as taught by Martin, so as to position it into already existing mounting hole in the moving part, so as to minimize manufacturing costs and allow the operator to measure a real time temperature of the moving part.

With respect to the particular material, as stated in claim 4: the [articular material, i.e., epoxy, as stated in claim 4, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made would

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have found obvious to provide using routine experimentation based, among other things, on the temperature range the sensor is to withstand and the intended use of the device. See In re Leshin, 125 USPQ 416. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the housing, disclosed by WO, so as to have an epoxy material to keep the temperature sensor in a position, because epoxy is known in the art to be a relatively compressible material capable of protecting enclosed sensors from damage caused by extreme temperatures or violent movement in a harsh environment.

With respect to “whereby”/”thereby”: it has been held that the functional “whereby” statement does not define any structure and accordingly can not serve to distinguish. In re mason, 114 USPQ 127, 44 CCPA 937 (1957).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO and Martin as applied to claims 1-4 above, and further in view of Schurmann and (U.S. 485671) Fernandes (U.S. 485671).

WO and Martin disclose the device as stated above in paragraph 3.

They do not disclose a second antenna (receiver) connected by a cable to a control unit, and that a plurality of sensors are multiplexed to the second (single) antenna (receiver).

Schurmann discloses a device in the field of applicant’s endeavor comprising a wheel having a sensor, a first antenna (transponder) 44 and 48, coupling to a second antenna/ receiver

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(coupling coil) 32 connected to an evaluating electronics (control unit) via a wire (cable) line 34.

It is inherent that each moving part (wheel) needs contain similar sensors.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by WO and Martin, so as to have a second antenna/ receiver, in order to be able to transmit a temperature related signal from the sensor to a control unit, so as to allow the operator to remotely obtain temperature data and take necessary actions.

They do not explicitly teach a multiplexer switching a plurality of sensors to a single (second) antenna/ receiver.

Fernandes teaches that a plurality of sensors can be multiplexed (switched), so as a single receiver (second antenna) receives a signal from only one sensor at a given time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by WO and Martin, so as to have a single receiver (second antenna) receiving signals from multiplexed sensors, as taught by Fernandes, so as to minimize manufacturing costs by eliminating extra parts (plurality of antennas), and to achieve high accuracy of the device by obtaining signals from each part of interest in a time sharing manner.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO and Martin as applied to claims 1-4 above, and further in view of Schurmann (U.S. 5513525).

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WO and Martin disclose the device as stated above in paragraph 3.

They do not disclose a second antenna connected by a cable to a control unit.

Schurmann discloses a device in the field of applicant's endeavor comprising a wheel having a sensor, a first antenna (transponder) 44 and 48, coupling to a second antenna/ receiver (coupling coil) 32 connected to an evaluating electronics (control unit) via a wire (cable) line 34. It is inherent that each moving part (wheel) needs contain similar sensors.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by WO and Martin, so as to have a second antenna/ receiver, in order to be able to transmit a temperature related signal from the sensor to a control unit, so as to allow the operator to remotely obtain temperature data and take necessary actions.

Allowable Subject Matter

6. Claims 5-7 and 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices.

9. Any inquiry concerning this communication should be directed to Examiner Verbitsky who can be reached at (703) 306-5473 Monday through Friday 7:30 to 4:00 ET.

Any inquiry of general nature should be directed to the Group Receptionist who can be reached at (703) 308-0956.

GKV

July 22, 2003


Gail Verbitsky, Patent Examiner, TC 2800